

CLAIMS:

1. A color projection system comprising:
a light valve device (4) for modulating light incident thereon in accordance
with information of an image to be displayed;

5 an AC-operated light source (1) for generating light of at least two different
colors, and

an illumination unit (3) for illuminating said light valve device with said
generated light of different colors in a sequential fashion;

wherein said light valve device (4) is controlled in synchronization with said
illumination unit in order to produce a colored output image;

10 characterized in that the sequential color cycle of the light valve device (4) and the AC cycle
for the illumination unit (3) are adapted to be out of phase with each other.

2. The projection system as claimed in claim 1, wherein the light valve device (4)
is a transmissive or a reflective liquid crystal device.

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3. The projection system as claimed in claim 1 or 2, wherein the illumination unit
(3) is further adapted to generate different colors in a space-multiplexed fashion.

4. The projection system as claimed in claim 3, wherein the illumination unit (3)
20 is operable to produce a continuous spatial color split, whereby at any certain moment of time
all colors are projected on the light valve device.

5. The projection system as claimed in claim 3, wherein the illumination unit (3)
is operable to provide scrolling color projection, wherein the colors are arranged with band-
25 shaped cross-section.

6. The projection system as claimed in claim 1, wherein the illumination unit (3)
comprises a source of white light, and a beam splitter for splitting said white light into a first,
a second and a third color beam.

7. A method of controlling a projection system with an AC-operated light source (1) for generating light of at least two different colors, said light of different colors being illuminated on a light valve device (4) in a sequential fashion, the light valve being controlled
5 to modulate the light incident thereon in accordance with information of an image to be displayed, and in synchronization with said color sequential illumination unit (3), in order to produce a colored output image, characterized in that the AC current cycle of the light source and the sequential color cycle are operated out of phase in relation to each other.

10 8. The method as claimed in claim 7, wherein the illumination of the light valve device (4) is further controlled to generate different colors in a space-multiplexed fashion.

9. The method as claimed in claim 7 or 8, wherein the period of time of the AC current cycle is longer than the period of time of the sequential color cycle.

15 10. The method as claimed in claim 7 or 8, wherein the period of time of the AC current cycle is shorter than the period of time of the sequential color cycle.

20 11. The method as claimed in claim 10, wherein the period of time of the AC current cycle is shorter than the display frame time of the sequential color cycle.

12. The method as claimed in claim 11, wherein at least one white segment is introduced in the sequential color cycle, providing an addition to the ordinary display frame time, wherein the period of time of the AC current cycle is shorter than said aggregate time
25 period of the sequential color cycle.

13. The method as claimed in claim 7, wherein the AC-operated light source is driven with a square-wave current to constantly change the polarity of the square-wave current, to provide a constant power to the light source and to provide, each time before
30 changing polarity, a current pulse driving the square-wave current to a predetermined strength which is larger than the current strength in between the current pulses.